Supply Chain is Vital to Success—Analyzing the Supply Chain Management in Nokia

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ABSTRACT

This report sets out Supply Chain Management with its operational context and illustrates the principles by example of an organization—Nokia. The first part of it gives us an overall introduction to its concepts, defines key items, and discusses the role, aims, importance and some general contexts of supply chain management. This part presents the process of supply chain with the structure design and shows how this strategy can be implemented.

The second part of this report focuses on the theory of Information Management at the start of the introduction of its structure. In this part, we discuss some of the related theories about managing information system and logistical systems and then move to an organizational context to support the above issues.

After covering the key points of supply chain management, the final part of this report focuses on a case study which will present a model company, “Nokia”, and present its operation, implementation and strategies based upon the supply chain management and information management. From this part, we will see how the related theories are operated within an organization successfully.

There are also a list of reference and an appendix at the end of this report.

CONCEPT OF SUPPLY CHAIN MANAGEMENT

Definition of Supply Chain

A typical definition to describe the central concept is that of Cooper and Ellram (1993).—“An integrative approach to manage the total flow of a distribution channel from the supplier to the ultimate user.” Every product has its own unique supply chain that can be both long and complicated. The problem of duplication and responsiveness generates the supply chain which can provide the potential solutions to them. Its notion of a distribution channel includes suppliers, manufacturers, distributors and customers and they are connected by a common process by a set of supporting links in location, transportation and other facilitators (Philip B, 2001).

Structure of Supply Chain

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From an organization point of view, supply chain has a single product moving through a series of organizations and each of them will add value to the product. The activities which move materials inwards are called upstream while the one which move materials outwards after the organization are called downstream. The upstream and downstream activities are divided into tiers respectively.

In practice, most organizations have many different suppliers and many different customers. So the supply chain “converges as raw material move in through the tiers of suppliers, and diverges as products move out through tiers of customers” (Donald 2003). (See Figure 1)

![Figure 1. Activities in a Supply Chain.](image)

**Benefits**

Supply Chain is complicated process. Although sometimes we can move products directly from initial producers to final customers, there still are very good reasons for using a longer supply chain. Because it can be used to overcome the gaps which are created due to some distance from suppliers to customers, the operations are allowed to be best alone, or can only be done, at location that are distant from customers or sources of materials.

**SUPPLY CHAIN MANAGEMENT IN OPERATIONS STRATEGY**

**Definition of Supply Chain Management**

Supply Chain Management is the management of the interconnection of organizations that relate to each other through upstream and downstream links during the process which can produce value to the ultimate customers in the form of products and services (Slack, Chambers and Johnston 2007).

**Objectives**
To satisfy the end customer is one common and central objective of all supply chain management and the consideration of the ultimate customer must be included by all stages in a chain even the individual operation in the chain should not only satisfy its own customers but also the end ones by supplying appropriate products and services when they are needed at a competitive cost. For this, supply chain should achieve appropriate levels of next five operations performance objectives (Slack, Chambers and Johnston 2007):

- **Quality**—When products on service reach the customers, the quality is a function of the quality performance of every operation in the chain.

- **Speed**—There are two meanings in a supply chain context. First one is how fast customers can be served, which is an important element to all organizations to compete. Another meaning is the time taken for goods and services to move through the chain.

- **Dependability**—It is similar to speed in so much as one can almost guarantee “on-time” delivery by keeping excessive resources within the chain, especially the overall processing time which is a much more desirable aim because it reduces uncertainty within the chain.

- **Flexibility**—Is usually means the chain’s ability to cope with changes and disturbances, which copes with change in customers demand or in the supply capabilities of operation in the chain.

- **Cost**—Some transaction costs derive from each operation in a chain doing business with each other. Also there are some other costs which incurred within each operation to transform its inputs into outputs.

### Suppliers Selection

When choosing appropriate suppliers, businesses should measure alternative attributes. Most of them find it best to adopt some kind of suppliers “scoring” or assessment procedure. This should be capable of rating alternative suppliers in terms of the factors which are involved evaluating the relative importance to choose suppliers (Slack 2007).

Core competencies drive the enterprise and endue organizations more competitive advantage because they create many opportunities for prices and profits margins which exceed the market and is a shifting target: For example, competition changes and new technologies emerge; new activities become the core and other activities within an organization often have no advantage. So many organizations only keep a few activities and contract for the rest with outside partners.

Core deals with sources of competitive advantage while outsourcing release management and capital resources which can bring more core opportunities because of its flexibility. Outsourcing creates external supply chain which cannot be managed within a single organization but be performed by other organizations with less direct control over the outcomes. So the requirement about selecting business partners and the need for inter-organizational management should be crucial (Philip B, 2001).

In addition, by outsourcing activities in which it lacks competence, the firm can fully concentrate on those areas in which it can create value (Hitt, 2005)

### CASE STUDY: SUPPLY CHAIN MANAGEMENT IN NOKIA
Overview of Supply Chain in Nokia

Past Leader in Mobile Phone Market

Nokia has been the world leader in mobility, driving the transformation and growth of the converging Internet and communications industries. Nokia made a wide range of mobile devices and provides people with experiences in music, navigation, video, television, imaging, games and business mobility through these devices. After being purchased by Microsoft, Nokia also provides equipment, solutions and services for communications networks (Nokia Corporate 2014). Thus, as the past leader in mobile phone market in the world, its systems of the supply chain management and related implementations items also should be the excellent model to be worth of analyzing and studying.

Supply Chain Management Transformation

With an extremely complex supply chain, Nokia handle 100 billion components, 60 strategic suppliers, and 10 factories worldwide and new product introductions and variations are also intense (Nokia Corporate 2007).

Nokia started it supply chain management transformation in 1995 with the strategy of replacing inventory with information in order to create a supply chain which link suppliers, factories, telecom operators, channel partners, contract manufacturers, banks sales and logistics services provider to the customers. The final purpose of this approach was to form a most efficient supply net work to offer customers the best service and solution according to their expectations. Therefore, creating a value-based partnership with suppliers, which is based upon factual information, flexibility and trust, should be involved into the fundamentals for success.

Based on this approach of supply chain management, Nokia’s supplier network is now the strategic issue which included several corporate objectives: great products, operational excellence, and customer satisfaction. Through implementation, the result was impressive with increased sales and reduced component inventories, not only within Nokia but also throughout the whole supply chain including supplier and customer inventories. (See Figure 2)
Implementation of Supply Chain Management in Nokia

Supplier Network Management

“Nokia will do its utmost to contract only with subcontractors or suppliers who themselves adhere to international human rights and environment laws and practices” (Nokia Corporate 2007). Nokia has a comprehensive set of global Nokia Supplier Requirements which includes ethical considerations for labor conditions. Basic standards are set for:

- Child Labor
- Forced Labor
- Health and Safety
- Freedom of Association and Right to collective bargaining
- Discrimination
- Disciplinary Practices
- Working Hours
- Remuneration

Nokia requires its suppliers to comply with these requirements through their own efforts, but if it is necessary, requested support can be provided. Moreover, suppliers are required to apply the same standards of these requirements to their own suppliers and to support them with monitoring practices.

Sourcing Responsibility

“Our code of conduct guides us in all the ways we do business, including with our suppliers” (Nokia Corporate 2007) So Nokia requires all products and services to be offered under the Nokia brand and to be sourced according to an internationally accepted standards. These sourcing practices also need to comply with human rights and workplace practices throughout the value chain. Following the growing demand,
Nokia are bending itself to develop its effective process and comprehensive supply–demand network. Nokia’s sourcing activities can be divided into two categories:

- **Direct Sourcing**: It takes care of the materials supply for Nokia products, such as components, parts, packing, tract manufacturing, software development, and research and development.
- **Indirect Sourcing**: Cares equipment such as office furniture and computers. It also includes services like catering, IT consultancy and marketing that purchase for its own consumption.

**Supplier Assessment**

Figure 3 summaries Nokia’s supply base management process. Environmental and ethical considerations have been integrated into all processes and supplier assessment plays a key role in it. In Nokia, the regular supplier assessments which are looked as a tool to help promote good performance and also to monitor compliance are the opportunities to raise awareness, identify potential risks and share best practices.

![Supplier Assessment Figure]

**Building a strong relationship**

“Nokia commits to monitoring the ethical performance of its suppliers and to taking immediate and through steps in cases where the ethical performance of its suppliers comes into question.” (Nokia Corporate 2007)

Nokia’s aim is to ensure that environmental, ethical, and health safety issues are embedded within all sourcing processes including supplier selection and building relationship through taking a similar approach with its all suppliers in network. For this reason, when working with suppliers together or driving compliance, openness and trust are necessary in a supply network context. Some suppliers have well-developed corporate responsibilities while others need more support and they can get the methods including Nokia Supplier Requirements, programs, and supplier-focused events.
Suppliers Training

“Nokia will do its utmost to contract only with subcontractors or suppliers who themselves adhere to international human rights and environment laws and practices.” (Nokia Corporate 2007)

Raising awareness and competencies within Nokia’s sourcing organization is an important aspect of supplier network management. Nokia started environment training for its purchasing and sourcing personnel in 1999 and began providing training on labor conditions issue in 2002. The content of training focuses on the concept of corporate responsibility, stakeholder expectation regarding Nokia’s supply chain management, the Nokia Code of Conduct, the Environmental Policy, environmental and social requirements for suppliers, ISO14001 and SA8000 content, practical information on assessing environmental and social impact and internal ethical practices. (Nokia corporate 2007)

Customer

Quality Assurance

Nokia’s strategies and final aim is creating customers satisfaction and customers are the most important people for Nokia. To achieve these, Nokia must pay much attention to not only the quality of its products but also its approach to the various environmental, social and ethical issues which are related to customers. During the design and production, Nokia involves its duty of care into an awareness of environment and ethical issues including creating services to assist and inform customers about its products and how to use them safely and effectively.

Whatever the products design or the all kinds of services to all customers, quality assurance is extremely important. Nokia insists on delivering innovative products and a high-quality customer services and it aims to create stylish products which are towards the higher expectation.

Nokia Care and Nokia products

Except the quality assurance, Nokia gives its customers many assists and supports to understand and use Nokia’s products through a variety of services which are called Nokia Care including online assistance, customer service center, repair center, firmware updates and assistance with matters such as warranties. Nokia provides consumers with extensive online product support through Nokia Care Online Services which is given responsibility to fulfill broad range of consumer needs.

In addition, Nokia has been fully engaged for more than a decade inclusive product design and product development especially the needs of people with disabilities. Also, the ease of use makes many of its mainstream devices accessible to a wide variety of users as a design goal.
Supply Chain Management Strategy in Nokia

Industry Collaboration

Nokia joined the Gesi (Global e-Sustainability Initiative) supply chain group whose common aim is to promote good conduct and develop tools, management practices, processes, and systems to assist its members.

RosettaNet is a voluntary initiative, which consists of over 500 major information technology and electronics manufacturers who are committed to developing solutions to form the standardized exchange of information at an open and global environment. As a part of the net, Nokia uses the RosettaNet information based on the Web to exchange its information about material, product and solution with suppliers.

ODM and Outsourcing

“Approximately 26% of Nokia’s Mobile phone manufacturing is outsourcing to contract manufacturers and Original Design Manufacturers (ODM).” (Nokia Corporate 2007)

ODMs can fill gaps in their product lines quickly and cheaply in order to save money on research and department. Also, they assure some business risks related with fluctuations in component supply and end-user demand. That is causing the handset-makers to change their strategies – being able to design their own chips is now less important than it used to be. Following this trend, Nokia shifted towards using “off-the-shelf” chips and software through increasing outsourced manufacturing in the form of ODM firms.

According to Nokia’s sheer size, it insists its marketing share is around 35%. That means it can still complete the whole process from chips design to branding and it depend to various demands than rivals so that it can respond to various demands rapidly and keep its efficiency of manufacturing.

CASE CONCLUSIONS

After analyzing the case of Nokia about its supply chain management and the related operating strategies, we can summarize several critical factors for Nokia’s success:

* Close cooperation with suppliers is one of its core development principle and a key factor for the entire supply chain.
* Higher customer satisfaction through increased flexibility, improved responsiveness and high quality.
* The strict structure shortens its supply chain in order to reduce costs and enhance profits.
* High system integration is not only the mean but also the aim.

REFERENCES